

VN-C30U

ADDITIONS TO INSTRUCTIONS

- Control from Web Browser -

INSTRUCTIONS

This instruction manual is printed on recycled paper.

Thank you for purchasing the JVC VN-C30U.

To gain maximum benefit from this product, read this instruction manual carefully befor use and retain it for future reference.

The serial number is very important for maintaining quality of your product. At the time of purchase, check to see that the serial number is correctly printed on the top of the unit and that the serial numbers on the unit and warranty match.

For Customer Use:

Enter below the Serial No. which is located on the body. Retain this information for future reference.

Model No. VN-C30U

Serial No.

LWT0031-001D

With VN-C30U Version 2, it has become possible to view images and to perform various controls and settings of operations configurations via the web browser.

This manual has been compiled in order to describe this new facility, which is the "Control via Web Browser". However, note that MPEG1 moving images cannot be viewed and the image up-down inversion function is unavailable via the web browser.



OPERATING ENVIRONMENT

The environment described below is necessary for operation of the VN-C30U through a web browser.

A personal computer running the following web browser:

- The PC needs to satisfy the operational environment (P.10), which is described in a separate volume of the manual.
- Web browser that has compatibility with Java Script and Frame: Netscape Ver. 4.x or Internet Explorer Ver. 4.x, 5.x, 6.x is required.
- For the CPU performance and memory capacity requirements, refer to the values recommended for the web browser in use.

To obtain smooth moving image displays on a large screen, a web browser capacity above the recommended value is required.

Camera supplied images will not be displayed correctly in the 256-color mode.

In order to view a moving image with a Web browser, a JAVA VM is required.

CAUTION:

- If a Microsoft Corporation JAVA VM is not used to view a moving image, please go to the following Homepage address for further advice.
 - http://www.jvc-victor.co.jp/english/pro/vnetworks/index-e.html
- A Microsoft VM is not provided with a WindowsXP SP1a.

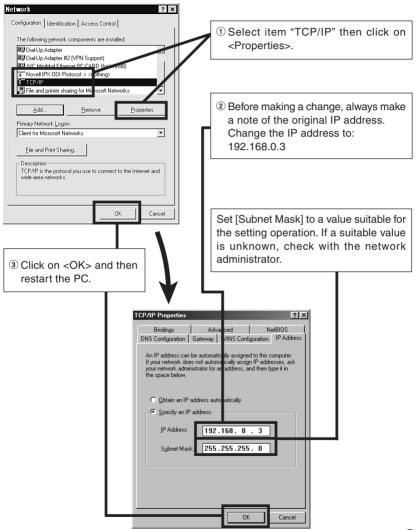
LAN Environment

- The VN-C30U unit functions as a web server based on HTTP protocol.
 Access linkage using a host name is possible if the environment allows the DNS (Domain Name System) to be used.
- It is possible to connect a VN-C30U unit and a PC in a direct 1:1 connection by using a cross cable. (Certain LAN boards do not allow the use of a cross cable, though this is a very rare case. Be sure to check your LAN board.)

1. Setup

1-1 Changing the IP Address of the PC

Select the [Start] button then select [Settings] – [Control Panel] – [Network] to display the [Network] settings panel.



Web Page Illustrations Used in This Manual

Hereafter, the figures entitled VN-C30U Page show a display of the web page data of the VN-C30U (including images captured by the cameras) by the web page display function of the web browser.

Due to this mechanism, the format and character font of the displayed web pages may be variable depending on the types and settings of the web browser in use. Should the operation be hindered due to a lack of any of the screen display items that should be displayed, adopt measures for displaying all items by resizing the window, etc.

The figures in this manual are based on Netscape web page displays.

When the browser in use is Netscape

 When a moving image of the VN-C30U is displayed, the web page display cannot be updated by changing the Netscape window size. In this case, click on the <Update> button on the Netscape window to update the web page display.

When the browser in use is Internet Explorer

- After the password has been changed, the password entry confirmation window may ask for the password twice. In this case, enter the same password twice.
- When the VN-C30U is connected through a proxy server, the correct pan/tilt positions may sometimes not be enabled to be displayed. In this case, click "Pan/Tilt" a few times until the correct display is obtained.

1-2 Changing the internal settings

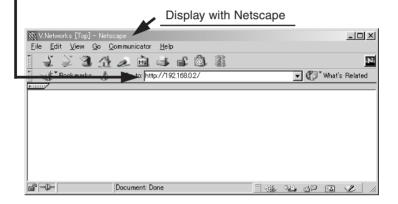
Start the web browser.

In the web browser, specify the factory-set web page address of the VN-C30U. (Direct specification of the factory-set web page address enables the web browser to display the VN-C30U Top Page.)

http://192.168.0.2/index-e.html

Caution =

If a proxy server is set for accessing the Internet, a direct specification may not be permitted. In this case, change the proxy setting to permit direct address specification.



Note: -

 In this manual, the terms "Top page" and "Home page" are used as described below:

Top page: Indicates "index-e.html"

Home page: • If the default page (See page 8) is set to valid, the specified html page is indicated.

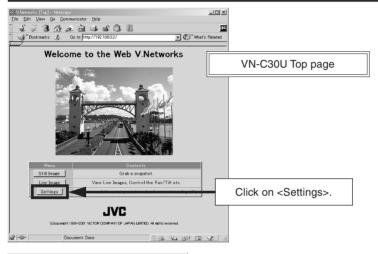
 If the default page is set to invalid, "index-e.html" is indicated.

The VN-C30U Top page appears.

CAUTION -

- The background changes to blue when the image mode of the VN-C30U is set to the MPEG mode.
- The Top page will not appear if the "HTTP Viewing" is set to "Disable" using the Setup Tool.

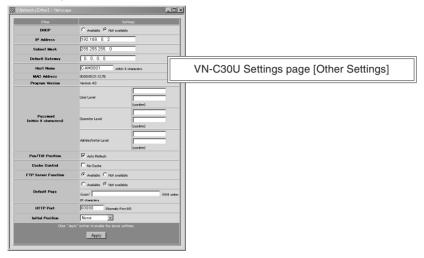
Instead the message "403 Forbidden" will be displayed.





VN-C30U Settings page

The setup consists of changing the contents of [Other Settings]. (The same setup is also available using the Setting tool provided with the standard controller.)



Items in [Other Settings]

[DHCP]

Set this to "Enable" when the DHCP is used.

[IP Address] To change to the IP address assigned to or approved for

the network administrator. (This is can be changed only when DHCP is not used.)

when DHCP is not used.)

[Subnet Mask]

Similarly to the IP address, to set the value assigned to

or approved for the network administrator

[Default Gateway]

To set the IP address of the default gateway

If this is not used, set "0.0.0.0".

[Host Name]

To specify the host name using up to 8 alphanumeric characters

This should be set when access linkage using a host name is required in an environment allowing the use of the DNS (Domain Name System). The host name is displayed in the title bars of sub-windows including the

control windows.

Do not specify anything when the host name is not used or unknown.

[MAC Address]

A physical address proper to each product.

* This cannot be changed.

[Program Version]

Program version of the firmware in the VN-C30U unit

* This cannot be changed.

[Password]

To set the password using up to 8 alphanumeric characters.

The same password should be entered twice at each level for confirmation.

[Pan/Tilt Position]

To select whether the current pan/tilt positions are to be displayed in the control and configuration windows. (This is ineffective with the VN-C30U Ver. 2.)

[Cache Control]

With a very small number of proxy servers that caches cgi, the pan/tilt control may not function correctly. In this case, inhibit the Cache operation by checking the cache box.

[FTP Server Function]

Set whether FTP Server is valid/invalid.

If this is set to valid, it will be possible to upload various user HTML pages, GIF and JPEG image files, etc. to this unit using common FTP client software.

* Uploaded files will all be placed directly under the "/user folder" directory.

Access from a web browser can be done by inputting the URL such as http://192.168.0.2/user/aaa.html

(When accessing "aaa.html" stored on FTP, the "192.168.0.2" denotes the IP address of this machine.)

- * The FTP user name is fixed as "Administrator". For the FTP password, use the administrator level password.
- * When the "HTTP Viewing" is set to "Disable" using the Setup Tool, it will not be able to access the file uploaded with a Web browser.

CAUTION =

- The allotted FTP user area is approximately 90 K bytes, however since this unit's file system is generated dynamically, the actual storable capacity may be less than this in certain cases.
- Folders cannot be created on this FTP server. Only file upload/delete/ rename are possible.

[Default Page Set-up]

If "invalid", it will be set to the regular VN-C30U Top Page.

If "valid", the HTML file you set will be used as the default page.

*Default Page refers to the page that is displayed when only the IP address is specified.

ATTENTION –

Even if the function is "valid", if the HTML file specified here does not exist then a message such as "404: Not Found" will be displayed by the browser when "http://192.168.0.2/" is specified, so make sure that the setting is made correctly.

[HTTP Port]

It is possible to change the port number of the HTTP Server on this unit to a number other than the default port 80 to raise the level of security. (Selectable range: 1-65535 excluding 20 and 21) If the HTTP Port is changed, access from web browser will be done as follows:

http://192.168.0.2:12345/ or http://192.168.0.2:12345/index.html

(Example when Port 12345 is selected)

When you don't know or forget the HTTP Port number, use the provided Setup tool to check it. This enables setting the HTTP port automatically in order to resume a specified position number when the power is turned on or if the software is reset. (It is necessary to register a position in advance in the memory to enable this function. Refer to page 19.)

[Default positioning]

Password protection

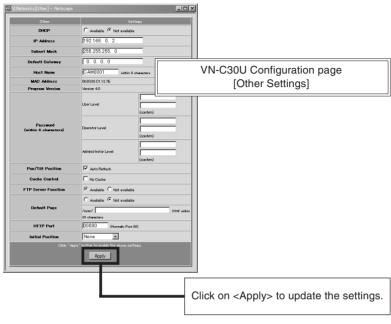
Access protection using a password is provided with the VN-C30U to restrict other connecting browsers (users). The access protection function provides three security levels, each of which is allowed to access the kinds of pages as shown in the following table.

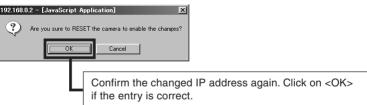
(For the configuration of the VN-C30U web pages, see page 14.)

Level	Access Permission	
User	Image pages only.	
Operator	Web pages other than the configuration pages.	
Administrator	All web pages	

CAUTION =

- Never forget the current password for it cannot be canceled or changed unless it matches the password set at the administrator level.
- Even when the user or operator level password is set, the password will not be asked for unless the administrator level password is set.





CAUTION -

The confirmation window above is displayed after [IP Address], [Subnet Mask], [Host Name] and/or [HTTP Port] have been changed.

When <OK> in this window is clicked, the VN-C30U unit is reset internally to update the IP address, etc. As this renders the IP address before change (factory-set value) ineffective, the connection to the VN-C30U is disconnected. The screen indicates that a connection cannot be established after the web browser has not been used for a while. This is a result of the change in the IP address. (The same is also true when the Port Number is changed.)

1-3 Restoring the IP address of the PC

In the same way as section 1-1, select [Start] – [Settings] – [Control Panel] – [Network] to display the [Network] settings panel and change [TCP/IP Properties] to the original IP address that has been noted previously.

After the change, restart the PC by following the displayed instruction message.

2. VN-C30U Access Test

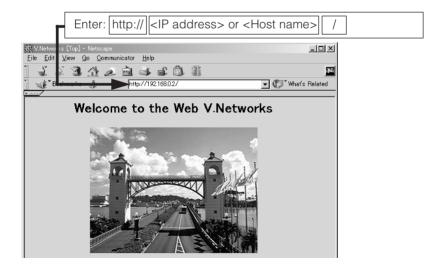
This test confirms that the VN-C30U web pages may be browsed and displayed via the web browser using the set IP address or DNS host name.

(For the configuration of the VN-C30U web pages, see page 14.)

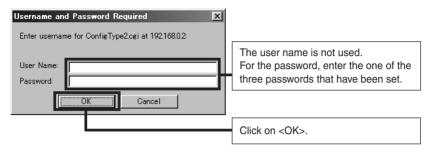
CAUTION -

If a proxy server is set for accessing the Internet, web pages may not be directly specified. In this case, change the proxy setting to permit direct address specification.

Also, when the DNS is used, contact the network administrator to update the information related to the DNS address setting, etc.



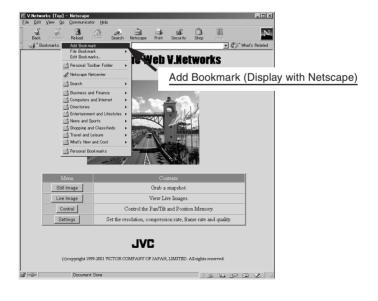
The [User Name and Password Entry] request window appears (for access authorization).



It is recommended to register the browsing information connection location (URL: Uniform Resource Locator).

To speed up the display of VN-C30U web pages from your web browser, it is recommended to register the URL information during the access test using the set IP address or DNS host name.

The registration uses "Bookmark" of Netscape or Internet Explorer. While a VN-C30U web page is displayed, perform the operation using the web browser's menu to add the page to the "Bookmark".





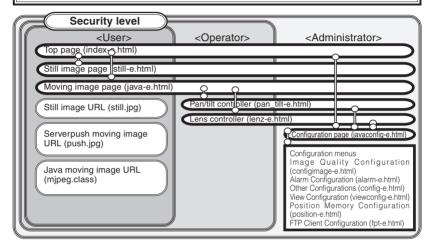
VN-C30U WEB PAGES

- Display Items and Operation Description -

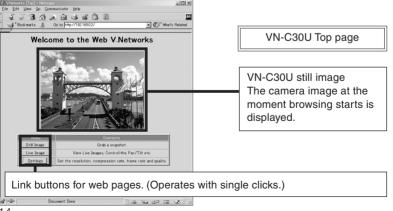
The configuration of URLs inside the VN-C30U is as shown below.

CAUTION

Authorization of access (Security) right is required in the access of any URL.

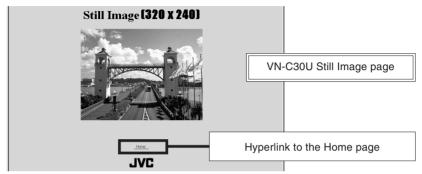


Top page: http://****/index-e.html (*****: URL indicating the VN-C30U) This page is intended to provide links to other VN-C30U web pages.



Still Image Page: http://****/still-e.html (****: URL indicating the VN-C30U)

This page displays only still images. The initial image is the camera image at the moment browsing starts. To update the image, perform the "Reload" or "Update" operation on the web browser. To save the image being displayed, perform the "Save As" operation on the web browser.

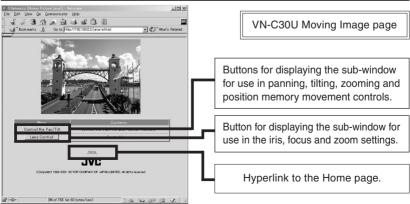


Moving Image Page: http://*****/java-e.html (****: URL indicating the VN-C30U)

This page displays only moving images. The displayed image is the camera image that is being updated automatically.

CAUTION =

Do not attempt to save images in this page for it has not been compiled assuming the use of the "Save Image As" function of the web browser. Also do not attempt to save the entire web page for it has neither been compiled assuming the use of the "Save As" function.



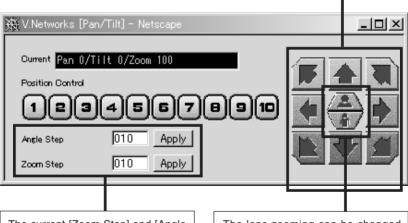
Control windows

[Pan/Tilt/Zoom] control window

The sub-window shown below can be used for the control of panning, tilting, zooming and position movement.

The VN-C30U unit incorporates a position memory storing up to 10 pan/tilt positions used in image capturing. Clicking one of the 10 (No.) buttons enables the camera to start the pan/tilt operation to the corresponding position stored in the memory. When the mouse pointer is placed over the Move Position button, the Pan/Tilt/Zoom location of each position will be displayed in Alt.

The pan/tilt position can be changed using these 8 pan/tilt control buttons. The amount of movement per press of a pan/tilt button is the "Angle Step".



The current [Zoom Step] and [Angle Step] settings for the pan/tilt operation are displayed.

Either setting can be changed by entering the desired angle value (integer) and clicking on the <Apply> button.

The lens zooming can be changed using these two buttons. The amount of lens movement per press of the button is the "Zoom Step".

- CAUTION -

Do not execute the pan/tilt operation until the web browser has completed loading the images of all the buttons.

[Lens] control window

[Zoom] This setting controls zooming.

Change the value and click on the <Apply> button to enable the lens to zoom in or out

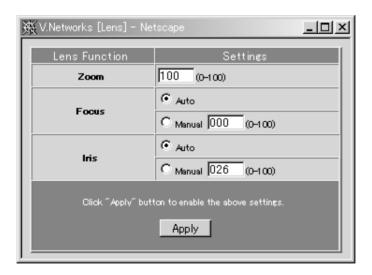
[Focus] This setting controls focusing.

When it is set to [Auto], the focusing is adjusted automatically. (Autofocusing)

When it is set to [Manual], the focusing position can be specified as required. (Change the value on the right and click on the <Apply> button to set the lens to the specified focusing position.)

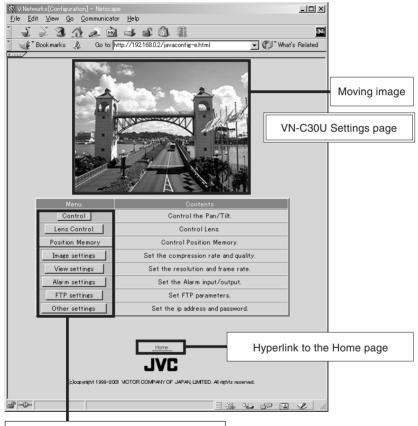
[**Iris**] When it is set to [Auto], the iris is adjusted automatically according to the brightness of the object.

When it is set to [Manual], the iris can be set as required, regardless of the brightness of the object. (Change the value on the right and click on the <Apply> button.)



Configuration Page: http://www./javaconfig-e.html (www.: URL indicating the VN-C30U)

This page is used for settings related to images and connections (setup). (A camera image updates automatically to be displayed as a moving image.)

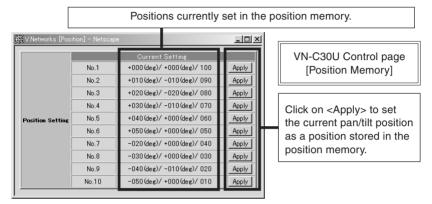


Click on the desired setting button to display a sub-window for the setting item.

[Control] and [Lens] control windows

See the descriptions in "Control windows".

[Position Memory Configuration] window



[Image Quality Configuration] window

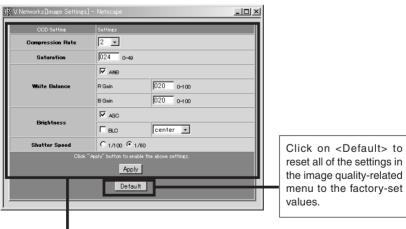


Image quality-related setting items.

After setting the desired items, click on <Apply> to make the settings valid. See the following table for a description of each item.

Item	Effect	
Compression Rate	The compression rate is inversely proportional to the image quality. When the compression rate is small, the image quality can be improved but the data quantity increases.	
Saturation	This adjusts the development of colors. Increasing this value increases color saturation.	
White Balance	When [AWB] is checked, the auto white balance circuit controls the white balance automatically. When [AWB] is not checked, the R Gain and B Gain settings are activated.	
Brightness	When [AGC] is checked, the gain of the internal amplifier is adjusted automatically according to the surrounding brightness. When [BLC] is checked, the back light compensation function is activated. One of the five photo-metering areas from the pull-down menu can be selected. The brightness will be adjusted automatically based on the selected photo-metering area. CAUTION: The BLC function does not work effectively unless [AGC] is checked.	
Shutter Speed	Select [1/60] for normal image capturing. To reduce flickering under fluorescent lighting, etc., select [1/100] if the local power voltage is 50 Hz or [1/60] if it is 60 Hz.	

[View Configuration] window



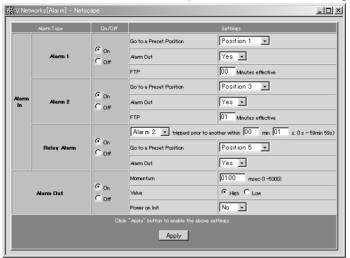
Item	Effect	
Resolution	Select the image size from "640 \times 480", "320 \times 240" and "160 \times 120". When [Cornpensate aspect ration when 160 \times 120 selected.] is checked, the image size of the "160 \times 120" display becomes actually 160 \times 112.	
JPEG Frame Rate	Select the maximum number of frames transmitted from the VN- C30U per second.	

CAUTION .

- The actual number of frames transmitted or displayed per second is dependent on the
 performance of the PC, type of web browser and LAN environment. In case communication
 faults involving the processing of other users are expected (particularly when the network
 environment is usually subjected to a relatively heavy load), it is recommended to set the frame
 rate to a lower value.
- When a large image size (640 x 480) is used, the upper limit of the frame rate is limited at 3 fps regardless of the setting made in [JPEG Frame Rate].
- Be sure to adjust [JPEG Frame Rate] in consideration of the number of simultaneous accesses to the unit. If its processing capability is exceeded, it will be impossible to perform correct operations including the web page display, movement and button operations.

[Alarm Configuration] window

This window sets the action to be performed when an alarm signal is input.



Alarm 1 or 2

[On/Off]

Check [On] when using the corresponding alarm input (1 or 2) and check [Off] when not using it.

[Settings]

An alarm input enables the camera movement to one of the positions stored in the position memory and an alarm signal output.

• [Go to a Preset Position]

Select one of the positions 1 to 10, which have been set in the VN-C30U [Position Memory Configuration] window. When an alarm is input, the camera will move to the specified position.

• [Alarm Out]

When "Yes" is selected, the alarm output outputs the signal set in [Alarm Out] below in the case of an alarm input.

• [FTP]

When "1" or a larger value is selected, the FTP client function will be enabled for a certain period according to the current FTP settings, even if the function is disabled by a setting. (To make this possible, the FTP settings should be set to enable FTP in advance.)

Relay Alarm

When alarm signals are input one after another with an interval of a few seconds, an interlocked alarm input can be identified and enable another operation.

Alarm Out

[Enable/Disable]

Check [Enable] to use the alarm output and [Disable] to not use it.

[Configuration Items]

These items are used to set the signal output from the alarm output terminal.

• [Momentum]

Set the time period for which the alarm output is to be continued.

• [Value]

Select whether the [High] or [Low] level signal is output as the alarm output.

• [Power on Init]

Select whether or not the alarm signal is output from the alarm output of VN-C30U at the moment it is turned ON.

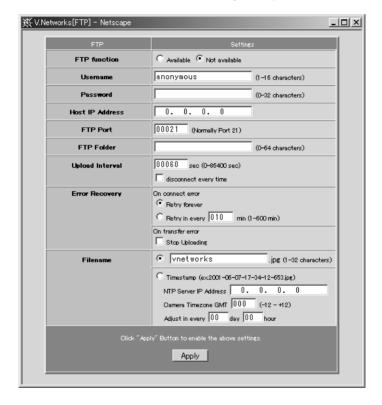
- * Set the alarm output according to the output destination device.
- * After completing alarm configurations, be sure to confirm that the alarm operations are performed as intended.

[FTP Client Configuration] window

FTP client function

This function uploads the VN-C30U images (still images) periodically to an existing FTP server.

This makes possible an image distribution service from a server and greatly increases the number of clients to whom images may be distributed.



- **[FTP function]** [Available]: Check to enable the FTP function.
 - [Not available]: Check to disable the FTP function.

[Username]

Enter the user name to be used in authentication with the FTP server.

[Password]

Enter the password to be used in authentication with the FTP server. (The entered characters are displayed as "*".)

[Host IP Address]

Enter the IP address of the upload destination FTP server.

[FTP Port]

Enter the upload destination FTP port number.

[FTP Folder]

Enter the upload destination folder name in the FTP server. If this is not entered, the images will be uploaded in the default folder.

[Upload Interval]

Enter the interval for image uploading to the FTP server. (It is possible to upload earliest by setting this item at 0 second.)

• [Disconnect every time]

Check this box to disconnect the connection after every image uploading.

* This makes it necessary to establish a connection before the next time an image is uploaded.

[Error Recovery]

• [On connect error]

Select the operation to be performed in case of an error related to the TCP connection or FTP authentication.

- [Retry forever]: The connection will be retried until the VN-C30U is turned OFF.
- [Retry in every * min]: The connection will be retried for the specified period.

[On transfer error]

Select the operation to be performed in case of a file transfer error while images are uploading.

- If [Stop Uploading] is checked: The FTP function of the VN-C30U is disabled automatically in case of a transfer error.
- * To resume the FTP operation, check [Available] in [FTP function].

• If [Stop Uploading] is not checked: The FTP function of the VN-C30U is not disabled in case of a transfer error. In this case, upload will be retried at every uploading interval.

[Filename]

● [*.jpg]

Enter the file name to be assigned to the uploaded image. (The latest image will overwrite this file.)

* As the images are uploaded in the same file names, the FTP server retains only one image file.

• [Timestamp]

When this is selected, the images will be uploaded by acquiring the current time from the NTP server (see below) and by naming the image file according to the current time data, in the format of "YYYY-MM-DD-HH-MM-SS-mmm"

* As the images are uploaded in different file names, the FTP server will retain the same number of image files as the number of uploaded images.

• [NTP Server IP Address]:

Enter the IP address of the NTP (Network Time Protocol) server.

• [Camera Timezone GMT]:

Enter the difference of the local time with respect to the Greenwich Mean Time.

 [Adjust in every * day * hour]: Specify the interval period for acquiring the correct time data from the NTP server for use in correcting the time error.

Note:

- An NTP server is required for the NTP setting.
- With Windows XP Home Edition and Windows XP Professional, NTP sever functions become enabled when they are installed in the standard procedure.
- For Windows 2000, follow the procedure below to enable NTP server functions.
 - 1. Set the value for the following registry to "1." (The default value is "0.")

HKEY LOCAL MACHINE\SYSTEM\CurrentControlSet\Services\W32Time\Parameters\LocalNTP

Registry editing is a highly risky operation.

Safety measures should be taken beforehand, e.g. creating registry backups. JVC shall not be held liable for any loss caused by registry editing.

2. Restart the Windows Time Service.

This can be done by opening [Administrative Tools] in [Control Panel] and selecting [Services], [Windows Time] and [Windows Time Properties].

<Apply> button

When the FTP operation is enabled, clicking this button starts the FTP operation with the settings made in this window.

When the FTP operation is disabled, clicking this button does not save the settings made in this window.



LINK OF VN-C30U IMAGES

- Pasting VN-C30U output images on separately created web pages -

Images (still and moving images) captured using the VN-C30U can be incorporated and displayed on web pages created by the user.

CAUTION -

- Images cannot be displayed when the VN-C30U unit is in the MPEG mode.
- When the "HTTP Viewing" is set to "Disable" using the Setup Tool, it will not be possible to display images.

Displaying a Still Image:

Create a web page including the following description to display the still image in the web page.

```
<IMG SRC="http:// ****** /still.jpg">
(****: URL indicating the VN-C30U)
```

Displaying a Moving Image:

A moving image can either be a Serverpush image or a Java image.

The image type should be selected according to the compatibility conditions of the web browser (or by adjusting the web page.)

Display by Serverpush image

Create a web page including the following description to display the moving image in the web page of a Serverpush-compatible web browser (i.e. Netscape).

```
<IMG SRC="http:// ****** /push.jpg">
(****: URL indicating the VN-C30U)
```

Display of a Java applet image

Create a web page including the following description to display a moving image in the web page of a Java-compatible web browser (i.e. Internet Explorer, etc.).

CAUTION -

- Both the displayed still images and moving images are displayed in the image sizes and compression rates set in the configuration.
 If the web browser is set to disable Java execution, images may not be displayed correctly.
- If passwords are set, Java moving images cannot be displayed unless it has previously been authenticated. (Restriction with Internet Explorer)
- The values of "WIDTH" and "HEIGHT" should be identical to those set in the image size setting of the VN-C30U.

However, both "160 x 112" and "160 x 120" are valid.

CAUTION -

- If the browser in use is Netscape Ver. 4.06 or older, it is required to update the Java Plug-in to Ver. 1.1 or higher in order to browse and display moving images.
 - Java Plug-in is available in web sites such as http://java.sun.com/ getjava/, etc.
- Under certain environments, image reloading may be repeated when the [Pan/Tilt/Zoom] control window is displayed. This is not a malfunction, however.
- When the [Time Stamp Format] file name is selected in the [FTP Client Configuration] window, a time stamp name for 1900's (years) is used unless the correct time has been acquired from an NTP server.



Link Methods for Various Java Applets

Since the Java applets listed below are used to run the functions in this unit's factory-set web page, it is possible to easily incorporate them into your original HTML pages (*1).

Pan/Tilt/Zoom Button

(Control.class)

Position Button

(MemoryPositions.class)

Current Location Display

(Location.class)

*1···Requires a basic knowledge of HTML.

[Applet Common Coding] (Example when 192.168.0.2 is IP address of this machine)

<APPLET CODE="XXXXX.class" WIDTH="XXX" HEIGHT="XXX" codebase="http://192.168.0.2/">

<PARAM NAME="AAAAA" VALUE="LLLLL">

<PARAM NAME="BBBBB" VALUE="MMMMM">

</APPLET>

Note: Parts like XXXXX.class and AAAAA will change according to the actual applet being used.

[Parameter Descriptions]

■ Pan/Tilt/Zoom Button (Control.class) — Applet to control Pan/Tilt/Zoom movement of camera.

Parameter name	Description	Default setting
bgcolor	Sets background color in 16-step 24-bit color	Gray
cache	Cache Prohibited/Allowed setting 1[Prohibited] or 0 [Allowed]	1[Prohibited]

[Parameter Descriptions]

■ Position Button (MemoryPositions.class) — Applet to move camera position to the preset position.

Parameter name	Description	Default setting
bgcolor	Sets background color in 16-step 24-bit color	Gray
timer	Memory position sampling cycle (10-step integer, millisecond specification)	60000 msec
cache	Cache Prohibited/Allowed setting 1[Prohibited] or 0 [Allowed]	1[Prohibited]

■ Current Location Display (Location.class) — Displays the current Pan/ Tilt/Zoom position of the unit.

Parameter name	Description	Default setting
fgcolor	Sets character color in 16-step 24-bit color	Green
bgcolor	Sets background color in 16-step 24-bit color	Black
timer	Current position sampling cycle (10-step integer, second specification)	2 s



Regarding HTTP Port Change Function

This version has been equipped with an HTTP Port change function. The port can be checked/selected using the provided Setup tool, in addition to via web browser.

If you forget the HTTP Port number and cannot connect using a web browser, perform the following steps.

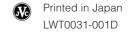
[PROCEDURE]

Input the IP address in the Setup tool, and check the "HTTP Port" while connected to the VN-C30U. Since the current port number is displayed, input the port number you want to change it to and click the OK button. (When the port number is changed, the system is automatically rebooted.)

CAUTION :

If the connected VN-C30U is below Version 3.0, the HTTP Port cannot be changed.





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